



**Volume 22**

**Number 006**

**C-130 Hercules – Workhorse of the World – I**

**Lead:** In July 1951 the U.S. Air Force awarded the contract for the construction of a new cargo aircraft. The C-130 Hercules has been one of the most successful aircraft in aviation history.

**Intro:** *A Moment in Time* with Dan Roberts

**Content:** It was becoming clear by the early 1950s that the U.S. World War II airlift fleet was outdated. The Air Force needed a new approach and awarded a

**development contract for the design to Lockheed Aircraft (predecessor of Lockheed Martin). The proposed aircraft would need to demonstrate short-distance landing and takeoff from paved or dirt strips, fly long distances with men and matériel, carry large heavy equipment, and do this in the most economical way. The result was the Lockheed prototype YC-130 which flew first in 1954. Since that time over 2500 units have been manufactured and delivered to more than 70 countries, but particularly to the U.S. Armed Services and Reserves.**

**The performance success of the C-130 has a great deal to do with its nimble construction, which can be modified for a wide variety of mission purposes and updated to reflect improvements in avionics and airframe assembly and its powerplant. Lockheed early on made a decision not to utilize a turbojet propulsion system. Jets can**

**provide high speed and lift payloads to very high altitudes, but a jet engine is a gas hog - comparatively expensive to operate. The proposed plane did not need to fly higher and faster because its mission did not require it. It was a cargo craft needed for the most part to fly men and supplies short distances which could be easily prolonged, should the assignment require it, through mid-air refueling. Lockheed powered its beast with the relatively new, post WWII, turboprop technology. A turboprop engine is a jet that sucks air into the front of the engine, combines it with fuel in a combustion chamber, then instead of forcing the heated air out of the back of the engine to push the airframe, it utilizes the heated air to turn a turbine which then turns a high efficiency propeller which propels the aircraft and forces more air into the engine creating more thrust. Utilizing four high-powered Allison then Rolls-Royce turboprops, the C-130 is**

**actually overpowered which has led to its high level of performance. Next time: Look Ma, no hook.**

**At the University of Richmond's School of Professional and Continuing Studies, I'm Dan Roberts.**

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